**GLOBAL COMMAND AND CONTROL SYSTEM (GCCS)**
**GCCS (HP) Release Bulletin SEGMENTS Version 2.2.2**

**rev 0**

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## FORWARD

I. Procedures Required Prior to Segment Installation

When configured to comply with security requirements in the Global Command and Control System (GCCS) Trusted Facility Manual for Version 2.1 with Change 1, the oradba account is verified (internally to Oracle) with a password. However, GCCS database segments have not yet been modified to comply with this requirement, so the oradba account must be modified temporarily to allow database segment loading.

If your site has configured the oradba account to verify the password internally, the following procedures should be used prior to installing application database segments and creating database users:

| **System Prompt** | **Response** |
|---|---|
| *machine name#* | **su - oradba** |
| *oradba@machine name%* | **sqlplus oradba** |
| Enter password: | **<Oracle password>** |
| SQL> | **alter user oradba identified externally;** |
| User altered. | |
| SQL> | **exit** |

**Following installation of all database segments, these procedures should be used to reset the oradba account so that it requires an internal password:**

| **System Prompt** | **Response** |
|---|---|
| oradba@machine name% | **sqlplus /** |
| SQL> | **alter user oradba identified by <Oracle password>;** |
| User altered. | |
| SQL> | **exit** |

II. Using The Remote Tape Drive During Segment Installation

Similarly, the GCCS TFM also requires the user to remove the hostname entries in the .rhosts file, which prohibits remote segment installations on the local network. If segment installation requires access to the tape drive on another local host, the installer will have to do the following:

1) Remote login to the machine with the tape drive.
2) Switch to user "root"
3) If the /.rhosts file does not exist, the hostname must be created.
4) Edit the /.rhosts file; add the following to the end of the file:
    + hostname

(Where hostname is the name of the system on which SAInstaller will be run)

5) Switch back to SAInstaller and install segments as needed

6) After loading the last segment, return to the remote login window and remove the "+ hostname" entry from the .rhosts file.

## COP Sync Tool (1.0.1.1.01:04/29/97) (COP) (HP)

### *SEGMENT DESCRIPTION*

The Common Operational Picture (COP) is a segment developed for the Global Command and Control System (GCCS) Version 2.2, running Unified Build (UB) Version 3.0.1.6G. The COP Sync Tool includes the MDXNet interface, which allows the near real-time exchange of track data between participating nodes on a wide area network (WAN). The COP Sync Tool segment can be installed on either a Tactical Advanced Computer (TAC) running HP-UX Version 9.0.7 or a SPARC computer running Solaris Version 2.3.

The COP Sync Tool segment need only be loaded on one system in the LAN. For instance, if the COP Sync Tool segment is loaded on the Tdbm Master, it need not be loaded on any Tdbm slave machines.

### *FIXES / NEW FEATURES*

This release updates the following:

1. Version 1.0.1.1.01 is an update to Version 1.0.1.1 of the COP Sync Tool segment.

2. This integration re-delivery corrects files that were discovered to be incorrect, in the original delivery.

3. The COP segment corrected the size in the hardware file. Also, added clarification to the release notes file concerning version numbering. The requires file requires a version of no less than the version specified. (Since this particular segment will work with versions as low as 3.0.1.4, that is what should appear in the requires file). Also, GCCS COE version 2.2.0.5 (which is greater than GCCS 2.2) is the aggregate version for the UB Core (version 3.0.1.6.02G) component.

### *INSTALLATION INSTRUCTIONS*

Step 1: Verify installation of required segments:
GCCS COE 2.2;
UB CORE 3.0.1.4G; and
UB Apps 3.0.1.4G.

Step 2: Install COP 1.0.1.1.01.

The following will be presented to the installer:

```
ENTER MACHINE UID:

OK
```

```
ENTER LOCAL COMMAND:

OK

ENTER OWNTRACK NAME:_____________________

OK

CLEAN TRACK TABLES.

OK
```

***KNOWN PROBLEMS***

This release contains the following:

1. Manually updating the motion model field of track does not cause an update to be sent throughout the MDXNet network.

2. Associations and disassociations are not handled correctly in MDXNet. More specifically, associations and disassociations are not distributed by MDXNet at the time of creation but upon the next update to one of the tracks.

It is recommended as a Standard Operating Procedure (SOP) that associations only be performed on tracks that a node "owns" (i.e., contains UIDs matching the trigraph of the workstation).

The following are some specific anomalies with associations, disassociations, and Nu-Trk operations:

a. Broken ELINT associations do not get distributed throughout the MDXNet network properly. Locally, the association is broken. However, the disassociation is not propagated throughout the MDXNet network.

b. Nu-Tracking a link, acoustic, or ELINT track that is not owned by the local host does not get propagated correctly throughout the MDXNet network. The track appears locally as a platform, with the respective link, acoustic, or ELINT associated to it. The other MDXNet nodes see the platform as a separate, unassociated track to the respective link, acoustic, or ELINT. Nu-Tracking a link, acoustic, or ELINT that the local host does own is propagated correctly throughout the MDXNet network.

c. When an ambiguity is Nu-Tracked, the new track is sent via MDXNet and is received as forced ambiguity (Name) at the other nodes. If the track is then modified to include more information, another track is sent to the other nodes. This non-ambiguous track has the same UID as the first track. If the user attempts to merge these two tracks, both are deleted.

d. If a Nu-Tracked contact is updated on TopCop, another ambiguity on the child is created. The ID of the new ambiguity is a duplicate of the ambiguity created prior to the Nu-Track update. If

   any of the ambiguities are deleted on the child, the Nu-Tracked contact on the TopCop is deleted as well, leaving the other ambiguities on the child with the same UID.

e. Deleting a platform track with an associated track does not work properly. Upon deletion of this type of platform track, user id prompted: "Break Association?". If user selects "Yes", then the platform is deleted; but the associated track remains. The platform deletion is distributed back via MDXNet network, but it does not delete the platform track. It only breaks the association. Since the platform track remains, it is then distributed throughout the MDXNet, back to the node that originally deleted the platform. Hence to the user on the originally MDXNet node (the node deleting the platform track by hand), the platform is removed and then reappears.

f. Acoustic track associations are not distributed via MDXNet. Additionally, to prevent acoustic track associations via MDXNet, any data in a platform track's TRADEMARK field is not distributed by MDXNet.

3. The EDIT MDXNET window does not validate invalid port numbers; i.e., any numerical values are assumed to be correct.

4. The EDIT MDXNet window will allow selection of MASTER NODE toggle with PARENT and LOCAL hosts set to different names.

5. When the EDIT MDXNET window displays DECODER=NONE and ENCODER=NONE, the channel can be activated without a warning message to indicate that no data will be transmitted or received. With these settings, the raw data window still shows the interface up, status and data messages being passed to the parent, which may lead user to believe the channel is properly configured when it is not.

6. Periodically, the warning of system times out of sync by > 60 seconds appears in the raw data window, even though the times are within 60 seconds.

7. When MDXNet is configured with DECODER=COPPROCESS and ENCODER=NONE, the channel will not remain activated. When the channel is run by hand, the following error message is seen: "VMDXNetRCVNotify: GetServiceCmd RETURNED ERROR for fd5."

8. Search filter changes do not take effect until MDXNet is restarted.

9. SPA25 Tracks are not sent over MDXNet.

## Enhanced Linked Virtual Information System (1.4.0.1:04/30/97) (LVIS) (HP)

### *SEGMENT DESCRIPTION*

This segment uses the World Wide Web (WWW) technology to provide GCCS tactical displays and Status of Forces data (where available) to web browsers (supporting HTML 3.2 and the Frames extension). A CERN HTTPD web server is installed to service all browser requests; this web server can co-exist on a workstation with other web servers without conflict, assuming different port numbers are assigned to each web server.

The Enhanced Linked Virtual Information System (ELVIS) provides a capability to view tactical information in geographic plots and tabular displays resident in a Global Command and Control System (GCCS) host system using a commercial web browser compatible with HyperText Markup Language (HTML) version 3.2, as implemented in the popular browsers. ELVIS software runs on a GCCS host as a group of background processes and does not interfere with normal workstation operations (except for an additional CPU load when servicing browser requests).

ELVIS allows the user to plot selected track data and tactical overlays on high resolution maps. The user can perform a family of query and map manipulation operations, such as track hook, map zoom, and range/bearing calculations. System administration utilities are provided to configure and tune ELVIS. For security, a user log in is required to gain access to the tactical information.

This segment should be loaded on all workstations.

### *FIXES / NEW FEATURES*

This release updates the following:

1. Ported to UB 3.0.1.6GP4.

2. Fixes problems specific to COE compliance for GCCS 2.2 on HP-UX.

3. Fixes problems where selecting a rectangle which resulted from a “Show Map Coverage” operation drew the map to the right frame instead of the left frame.

4. An Air Tasking Order (ATO) capability is available, based on the ATOX+ component of UB. ATOs can be plotted on the ELVIS geographic chart, while textual data about the ATO is presented in a hyper-text format.

5. The user can select one of four different display sizes (if configured by the system administrator). Specifically, the four resolutions are tiny (200x100), small (400x300), medium (600x450), and large (800x600).

6. A TINY resolution (200x100) was added to the previous small, medium, and large resolutions to yield faster response to mapping requests for users with limited bandwidth.

7. A capability was added for a system administrator to "plug in" modules to provide Status of Forces (SOF) data. Specifically, the SOF options for SORTS, CASREP, MOVREP, and EMPSKD can be modified to access any CGI program.

8. The FRAMES tag has been implemented for use with Netscape Navigator (version 3.0 and higher) to improve the presentation for combined geographical and textual data. Due to problems with support for JavaScript in Microsoft's Internet Explorer (all versions), the FRAMES capability is not yet available for this web browser.

9. The ELVIS system administrator may select which UB Briefs are to be made available to ELVIS users.

10. The VCC (Virtual Command Center) GIF has been improved to provide a more modern appearance.

***INSTALLATION INSTRUCTIONS***

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**NOTE:** ATOX Plus, Version 1.1, must be installed.

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Step 1: Verify installation of required segment:
UB Apps 3.0.1.6G.

Step 2: Install ELVIS 1.4.0.1.

The following will be presented to the installer:

```
ELVIS CLIENTS SHOULD CONNECT TO: HTTP://BRADY.IMS>DISA>MIL:9000.  PLEASE
REBOOT UPON COMPLETION OF THIS INSTALL.

OK

Selected segment(s) installed successfully.

OK
```

***KNOWN PROBLEMS***

This release contains the following:

1. Link-11 tracks are plotted, but the user access the complete Link-11 data profile (available in UB).

2. The “show map coverage” option does not display coverage rectangles for CIB map products.

3. A user must be logged into the ELVIS server.

4. On a dual-eye HP hardware configuration, the first user to log in must remain logged in for ELVIS to continue servicing browser requests. Testing has not been performed on systems with more than two eyes.

5. At the end of an ELVIS installation, the text string “.domainame” may be displayed to the installer as part of the ELVIS URL; it should be replaced with the siteÕs domain. The URL should be distributed to all prospective users.

6. The number of users per ELVIS host is limited to 1000.

7. The user account options for priority and read-only/read-write are not implemented.

8. Declutter of track data around the edges of the tactical display may be incomplete, i.e., track labels may overlap.

9. During installation (or re-installation), the file is not preserved. Hence the system administrator must reset the desired values for GIF resolution sizes and desired CGIs for access to NSOF data.

10. The following two conditions occur (by design in order to improve system performance) when more than 250 contacts are displayed:

    a. No track symbols are active but all displayed track name labels are active (and declutter will limit the number of labels).

    b. The UNIT option will only provide a list of tracks whose labels are displayed. For example, a “whole world” display of 1,500 tracks will have no “hot” track symbols but may have 50 “hot” track name labels. In this case, the UNIT option provides a list of the 50 tracks with name labels. For a complete listing of all tracks, use the FIND option with an asterisk in the NAME field.

11. The behavior of Netscape Navigator and Microsoft Internet Explorer may be different due to different levels of support/compliance with web-based protocols and HTML specifications/extensions.

12. The introduction of the FRAME tag has created several problems which are inherent in the use of frames. For example, when the CUSTOM MAPS or PLOT CONTROL option is selected, the

associated display control page is loaded into a frame other than the frame containing the tactical map GIF. If the map is changed, the display control page is still pointing at the previous map GIF, so changing display settings will cause the previous map GIF to be displayed. Another problem associate with FRAMES is that if two users are accessing ELVIS via the same user account, map draw operations requested by the two users may conflict.

13. Due to the implementation of the ACTION tag, the capability to change the size of the tactical map GIF can only be "activated" by using one of the selections from the MAP OPTIONS pull-down. For example, if the users changes the setting for the map size (via the pull-down menu), then the CENTER or ZOOM options will cause the map GIF to be resized. The options in the toolbar (e.g., 2X or 4X) will not change the map size.

## GCCS COE Patch (1.0.02:06/17/97) (GCOEPTC) (HP)

### *SEGMENT DESCRIPTION*

The Global Command and Control system (GCCS) Common Operating Environment (COE) Patch (GCOEPTC), upgrades the functionality of a GCCS 2.2 machine with or without UB fully loaded.

All future GCOEPTC segments (e.g. GCOEPTC 2.0) will be rollups of all previous GCOEPTC segments, and the deinstall/reinstall will happen automatically when the new GCOEPTC is installed.

This segment should be loaded on any GCCS 2.2 system, whether UB is fully loaded or not.

### *FIXES / NEW FEATURES*

This release updates the following:

1. Modified UB shutdown procedures to make use of the modified COEExecMgr (delivered with HP OS Patch 2.0 or Solaris Kernel Patch 2.0). Both the OS/Kernel patch and this GCCS COE Patch should be loaded on a GCCS 2.2 system.

2. Removed much needless complexity from the GCCS Main script, removing potential for meaningless dead process warning messages at session logout time. Also added functionality to activate COEExecMgr corrections (already included in an OS/Kernel patch).

3. In accordance with the Trusted Facilities Manual, removed the Oxhost +O entry from the .xsession.GCCS script in the GCCS Account Group.

4. Created a problem with the version file of the GCCS Account Group that was causing the OGCCS REV 2.20 version number to appear incorrectly during a user session.

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**NOTE:** This corrrection was pulled from UBPATCH VERSION 3.0.1.6GP3 and placed in this GCCS COE Path.

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### *INSTALLATION INSTRUCTIONS*

Step 1: Verify installation of required system:
Kernel Patch 3 (1.0); and
GCCS COE 3.0.1.6.

Step 2: Install GCOEPTC 1.0.02.

The following will be presented to the installer:

```
*****No dialog is presented.*****
```

## Link 11/TadilA (3.0.0.0:5/19/97) (LINK11) (HP)

### *SEGMENT DESCRIPTION*

The Link-ll Segment, Version 3.0.0.0 provides the functionality described in FIXES/NEW FEATURES, below. The Link-ll Segment, Version 3.0.0.0 was developed to run with Unified Build, Version 3.0.1.6G, in the Global Command and Control System (GCCS), Version 2.2.

The Link-ll Segment, Version 3.0.0.0 must be loaded on the TDBM Master and should also be loaded on any machine where you wish to view Link-ll tracks. Failure to load the Link-ll Segment, Version 3.0.0.0 on a machine will result in an inability to view Link-ll tracks.

The Link-11 3.0.0.0 software for GCCS 2.2 currently supports only passive Link-ll taps in Indian-Head/ADSI or EDO format. Active two-way Link-ll capability is a planned enhancement.

This segment should be loaded on any system where UB is desired and is fully loaded.

### *FIXES / NEW FEATURES*

This release updates the following:

The following are fixes/new features for Link-11 3.0.0.0:

1. Included a roll-up of all previous Link-ll releases (specifically Link-11 2.2.2.0, see changes below).

2. Modified Link Track printouts to correct line truncation problems (e.g. "Last Report Data" cut off).

3. Corrected ASW Bearing bug where bearing values appeared as double the correct value.

4. Corrected Link ownship "future" updates problem of being discarded. Now handles ownship future updates as current.

5. Implemented new secure open function calls to support future DII security requirements.

6. Modified Link executables to generate Link Symbol Hash keys, vice Tdbm.

7. Modified passive interface reset to occur only upon read error, not at EOF.

8. Per specification, modified link to accept FRU's (and their reported tracks) upon receipt of only one M1 and an M5 message (although the specification dictates that the sender shall always send two M1 messages).

9. Disabled connections to the X-display for passive channels, to avoid channel death due to refused connection or other inability to display windows.

10. Corrected hardware file incorrect diskspace reserved.

11. Removed executables unnecessary for passive Link-11, and stripped remaining executables.

***INSTALLATION INSTRUCTIONS***

Step 1: Verify installation of required software, as indicated by the Requires file.

Step 2: Link11 (3.0.0.0).

The following will be presented to the installer:

```
*****No dialog is presented.*****
```

***KNOWN PROBLEMS***

1. When Archive is selected from the Link-11 Status window (raw data window), the entire contents of File Selection are inoperable on Solaris. On HP all radio buttons in the File Selection window are inoperable. The work around is to select a single line item in the Link activity window and select Archive from the Decoded Message window.

2. Link Filter options within the Link-11 Status Window (raw data window) are not functional.

3. Track Edit Next/Previous function is inoperable. Select several Link tracks and select EDIT from the Tracks pull down. The Link-11 Track Edit window appears, but the Previous/Next buttons do not work in this window. The work around is to select one track at a time.

4. There is no ability to confirm deleting track-by-track when deleting a block of Link tracks, because there is no DELETE option in the Link-11 Track Edit window.

   Workaround: When doing block deletes of link tracks, always answer NO to the prompt about confirming deletes individually.

5. In the Link-11 Status window, occasionally an empty line will appear in the Link-11 activity window. This is normal. However, if the user selects this empty line, spurious data will in fact be present.

**Theater Ballistic Missile Defense (3.0.5.3:03/17/97) (TBMD) (HP)**

***SEGMENT DESCRIPTION***

This segment provides alert and monitoring services in the event of the receipt of a missile-type track into UB. The services can be triggered by a report over national sensors (TRE/TRAP/TIBS) or by receipt of the track from another UB-based system (via Gen Broadcast, Mdx, or MdxNet/COP). The user is alerted with an audible verbal warning, the missile track(s) dynamic projected position and probable launch/impact points are drawn on UB's system chart, and a monitoring window is displayed, from which more information can be gleaned about the missile(s).

This segment should be loaded on all GCCS sites.

***FIXES / NEW FEATURES***

This release updates the following:

1. This version of TBMD incorporates a problem correction to prevent the hang condition when the cancel button of the control panel window is pressed.

2. This release contains the full set of TBMD functionality and is intended to REPLACE TBMD version 3.0.4.2 or 3.0.5.3 in its entirety.

***INSTALLATION INSTRUCTIONS***

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**NOTE:** Previous releases of TBMD should be de-installed before loading TBMD version 3.0.5.3.

---

Step 1: Verify installation of required segments:
GCCS COE 3.0.1; and
UB Apps 3.0.1.

Step 2: Install TBMD 3.0.5.3.

The following will be presented to the installer:

```
*****No dialog is presented.*****
```

**Unified Build (3.0.1.6GP5:04/30/97) (UBPATCH5) (HP)**

***SEGMENT DESCRIPTION***

The UBPATCH5 upgrades the functionality of a GCCS 2.2 machine with UB fully loaded. It adds several new capabilities and corrects problems specified below. The updated programs and data span the contents of the various UB segments (GCCS COE, JMTK, UBApps, JMCISApps, and Printer), as these are inter-related.

All future UBPATCH segments (e.g. UBPATCH 3.0.1.6GP6) will be roll-ups of all previous UBPATCH segments, and the deinstall/reinstall will happen automatically when the new UBPATCH is installed.

This segment should be loaded on any system where UB is desired and is fully loaded.

***FIXES / NEW FEATURES***

This release updates the following:

1. Includes roll-up of all previous 3.0.1.6G patches (specifically UBPATCH, Version 3.0.1.6GP1, 3.0.1.6GP2, and 3.0.1.6GP3, and 3.0.1.6GP4, see changes below).

2. Corrected potential Mater Tdbm instability in the case of a client process submitting a poorly constructed track structure. Tdbm no longer terminates abnormally, even given bad

3. Corrected a problem with the Alert Log on HP that caused the Log to core dump and fail to appear under certain circumstances.

4. Added capability to show Mode 1, mode 2 /PIF, or Mode 3 as symbol labels on Link tracks on the chart, and added ability to select those columns (and sort by them) in the TRACK SUMMARY windows.

5. Reworked socket connection mechanisms in MDX channel to improve stability. Corrected logic to enable auto-reconnection of the MDX channel after network failures. Improved details in Raw Window display and manually debugging output.

6. Corrected the Critical TacPlot Error and Chart crash reported in conjunction with the AutoPlot-Off feature. Also corrected a number of smaller memory leaks in TacPlot.

7. Corrected a problem with UB serial channels in handling of incoming message buffers. The last message received would hang in the buffer and would not be processed by the receiving system until another message arrived or a small period of time passed.

8. Added two MISC menu items: PREPARE FLOPPY and EJECT FLOPPY, to enable ATO imports from floppy via the ATO log. PREPARE FLOPPY need be run only once on an HP (set up device links), but once per insertion of the floppy on Solaris (after disk is inserted).

9. Increased the maximum size of the PIF Nicknames table from 100 to 500.

10. Corrected a minor UB problem with core Ocm that could cause Ocm client lockup if certain APIs are used and an invalid request is received.

***INSTALLATION INSTRUCTIONS***

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**NOTE**: Reboot the system after installation of the UBPATCH 3.0.1.6GP5.

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Step 1: Verify installation of required segments:
GCCS COE 3.0.1.6;
JMTK 3.0.1.6;
UB Apps 3.0.1.6; and
UB Core 3.0.1.6.

Step 2: Install UBPATCH5 (3.0.1.6GP5).

The following will be presented to the installer:

```
UPON COMPLETION OF UBPATCH INSTALLATION YOU MUST REBOOT THIS SYSTEM.

OK
```